CURB SPACE MANAGEMENT STRATEGIES FOR NASHVILLE

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The study team included a few other persons in addition to the principal investigators. John Donaldson of Vanderbilt University and M. Raja of The University of Tennessee, Knoxville, were deeply involved with the data collection and analysis phases of the study. David Donahue and Louis Allen of The University of Tennessee were responsible for the editing and graphics for the report, respectively.

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ABSTRACT

Nashville is a medium-size city with a rapidly growing central business district. The dilemma being faced by the traffic engineers and planners of Nashville involves conflicting goals. There is a need to increase roadway capacity and traffic safety, which can be accomplished by removing curbside parking and loading zones. However, such an action would create difficulties for the businesses and their customers and suppliers unless other appropriate measures are taken. This study explored different strategies which can help satisfy both requirements.

Issues and problems relating to automobile parking, as well as truck loading/unloading, were investigated through curb space use surveys and also discussions with representatives from a variety of groups: police officers, United Parcel Service, a taxi company, local public transit agency, downtown merchants, planners and traffic engineers, and elected officials. A variety of short-term and long-term actions/policies were recommended.

Short-term actions include: adjusting parking fees and duration, discontinuing the current practice of establishing loading zones, designating different loading zones for different types of vehicles such as trucks and courier/parcel vehicles, and relocation of bus stops.

Long-range policies include: revising zoning requirements for off-street parking and loading berths, establishing peripheral parking lots and garages to intercept downtown-bound automobile traffic; revising building codes to require centralized freight receiving stations in buildings with multiple tenants.

The need for stronger enforcement parking and loading zone regulations was emphasized.

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EXECUTIVE SUMMARY

Overview

The City of Nashville has reached a crucial stage of growth. It has grown substantially in recent years, and the potential for continued growth in the future is quite strong. The land use in the downtown area is becoming intensive as evidenced by the increasing number of high-rise buildings. The need for increased roadway capacity already exists at certain locations, and it will be more widespread in the future. One approach to meet this need is to eliminate parking stalls and truck loading zones along curbsides, and many cities are forced to pursue this approach. However, adequate parking and loading areas are vitally important for various activities in a CBD, and the loss of curbside space for such purposes would create difficulties for the businesses and their customers and suppliers unless other appropriate measures are taken. There is a trade-off between the needs of traffic flow and those of merchants, employees, and other users of CBD. However, this trade-off does not have to be severe on either side. Innovative strategies, can be used to satisfy both types of requirements. The identification of such policies and strategies for Nashville is the underlying purpose of this study. The recommendations of the study would be useful to the Traffic and Parking Commission of the Metropolitan Government of Nashville and Davidson County in developing policies as well as evaluating proposals with regard to the use of curb space by automobiles, buses, trucks, taxis, and tour vehicles.

Summary of Recommendations

- Policies governing the allocation of space for curbside automobile parking and its use are fairly adequate at the present time. A little more emphasis on short-term parking meters, however, would be desirable. Also desirable would be an increase in parking meter fees so that off-street parking would become more economical and attractive.

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- It is likely that on-street parking in downtown in the future may be limited to short-term parking only. If, however, 8-hour or 10-hour parking is provided in certain locations, some of those spaces should be reserved for authorized high occupancy vehicles.

- Policies governing the allocation and use of space for trucks, courier/ parcel vehicles, and service vehicles need careful reexamination. The major recommendations involving loading zones include the following:

  a. It is proposed that the current practice of designating loading zones in response to petitions from business establishments and collecting fees from the petitioning businesses be discontinued. The locations of these zones should be selected by the Traffic and Parking Commission based on the characteristics of adjacent land use and the nature of the road segment and traffic flow. (Business establishments, of course, can communicate their needs to the Traffic and Parking Commission at any time.)

  b. Recognizing the increasing number of courier/parcel vehicles serving the downtown area, it is proposed that the Traffic and Parking Code be revised to accommodate the needs of these vehicles.

  c. The Traffic and Parking Code should include a clear policy toward service vehicles. These vehicles should not occupy loading zones except briefly and solely for the purpose of unloading or loading heavy repair tools and machines.

- Many bus stops in Nashville's downtown are on the nearside of intersections. It is recommended that a joint effort be made by the staff of the Traffic and Parking Commission and MTA to relocate all bus stops to the farside of intersections except where there are special reasons favoring a nearside stop.

- The existing taxi stands in Nashville's downtown are located appropriately and should be continued. The need for additional taxi stands within the study area and at the Greyhound and Trailways bus stations, which are located outside the study area, should be investigated in cooperation with representatives of taxi companies.

- The on-street parking of tour vehicles should be limited to 15 minutes for the purpose of loading and unloading passengers. Additional locations for such brief parking should be identified in the vicinity of the Legislative Plaza and the Tennessee Performing Arts Center. Off-street parking facilities for longer periods should be established for these vehicles. One potential location for this purpose is the metropolitan parking facility in east Nashville across the river.

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- One of the significant findings of a curb space use survey is the inadequate level of enforcement of parking and loading zone restrictions. Violations of loading zone restrictions particularly were frequent. It is strongly recommended that parking and loading zone restrictions be enforced more rigorously. Towing and booting of the vehicles of frequent violators should be used.

- For the long-term future the strategies for curb space use must be coordinated with those for off-street parking and loading.

  a. The zoning requirements for providing off-street parking spaces in the downtown area should be reevaluated. Wherever possible an adequate amount of off-street spaces should be required, and some priorty should be given to high occupancy vehicles. If certain establishments are exempted from this requirement, an "in-lieu fee" should be collected and used for developing and/or operating public parking garages.

  b. An adequate number of parking lots or garages should be developed at peripheral locations to intercept downtown-bound automobile traffic and to encourage the transfer of automobile users to public transit. The location of these parking facilities and the level of public transit service must be determined carefully.

  c. Zoning requirements for off-street loading berths should be applicable not only to new constructions, but also to structures which are enlarged or modified to increase the floor area.

  d. The zoning ordinances should include an appropriate requirement for off-street loading space for courier/ parcel vehicles and service vehicles.

  e. The building code and/or any other appropriate code or ordinance should include a requirement for providing joint and centralized freight receiving stations in buildings with multiple tenants. Such a requirement should be applicable to new as well as remodeled structures.

- It is recommended that a planned demonstration program of the proposed strategies for the near future be implemented at a few selected locations in cooperation with the local merchants and employers. A careful evaluation of the effectiveness of the program should also be carried out.

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I. INTRODUCTION

Objectives of Study

As a city grows, the management of curb space in its downtown area, i.e., the central business district (CBD), becomes increasingly challenging. The growth of CBD generates more vehicular and pedestrian traffic which demands more roadway capacity and safer sidewalks and crossings. One approach to meet this demand is to eliminate parking stalls and truck loading zones along curbsides, and many cities are forced to pursue this approach. However, adequate parking and loading areas are vitally important for various activities in a CBD, and the loss of curbside space for such purposes usually creates serious difficulties for the businesses and their customers and suppliers unless other appropriate measures are taken. There is a trade-off between the needs of traffic flow and those of merchants, employees, and other users of CBD. However, this trade-off does not have to be severe on either side. Innovative strategies, can be used to satisfy both types of requirements. The identification of such policies and strategies for Nashville is the underlying purpose of this study.

The City of Nashville has reached a crucial stage of growth. It has grown substantially in recent years, and the potential for continued growth in the future is quite strong. The land use in the downtown area is becoming intensive as evidenced by the increasing number of high-rise buildings. The need for increased roadway capacity already exists at certain locations, and it will be more widespread in the future. The policies that are adopted at this stage of growth of the city with regard to downtown development including curb space usage will play a significant role in the future. These policies must be identified carefully based on a comprehensive analysis of all

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pertinent factors. This study is a contribution toward the development of such policies, especially those related to curb space management. The recommendations of the study would be useful to the Traffic and Parking Commission of the Metropolitan Government of Nashville and Davidson County in developing policies as well as evaluating proposals with regard to the use of curb space by automobiles, buses, trucks, taxis, and tour vehicles.

Study Area, Scope, and Approach

The study area covers the CBD of Nashville. The specific boundaries on each side are as follows:

North: Railroad tracks just beyond James Robertson Parkway

East: Cumberland River

South: Up to and including McGavock Street

West: Railroad tracks west of Tenth Avenue

The study focused on the use of curb space for different purposes, viz., automobile parking, bus stops for the Metropolitan Transit Authority (MTA), loading zones for trucks, taxi stands, and stops for tour vehicles. The subject of off-street parking and loading/unloading was not of direct concern of this study. Nevertheless, it did have some relevance for certain strategies.

The study design was developed carefully to ensure that the needs of all types of users of curb space were considered. A steering committee made up of representatives of a wide range of organizations was formed, and a workshop was held to obtain the inputs of the representatives. The recommendations of the study reflect a balanced approach based on a variety of considerations and constraints.

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II. EXISTING CONDITIONS AND TRENDS

Socioeconomic Characteristics of CBD and Trends

The 1980 population of Davidson County which includes Nashville was approximately 478,000. For planning purposes the county is divided into 115 planning units. The planning unit 50 covers the downtown area of Nashville and it is fairly representative of the study area defined for this curbspace management study. The socioeconomic characteristics of this planning unit representing the study area are presented in Table 1. These figures indicate that the overall employment in the downtown area will continue to grow. The retail and manufacturing activities will decrease. However, consumer and business services and community services will grow substantially. Evidence of some of these shifts in the activity pattern already exists. For example, a significant number of service oriented business establishments such as law offices and financial service offices are opening up along Second Avenue between Broadway and Union Street, and along Fourth Avenue between Commerce Street and Union Street.

Retail business in the CBD has declined over the past several years. Cain-Sloan and Castner-Knott are the only department stores remaining in downtown. Retail business is still strong along Church Street between Fifth and Seventh Avenues.

The changes that are already taking place in the downtown area include the following:

1. Conversion of warehouses to offices for professional and personal services and some retail businesses along Second and Third Avenues;

2. A new high-rise office building near the intersection of Fourth Avenue and Commerce Street;

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TABLE 1

SOCIOECONOMIC CHARACTERISTICS OF DOWNTOWN AREA

Characteristics	1980	Estimated for 1990
Population		
Household	1,339	1,410
Nonhousehold	528	530
Total	1,867	1,940
Employment		
Manufacturing	3,500	3,360
Wholesale Trade	930	800
Retail Trade	3,540	3,070
Consumer and Business Services	15,730	18,970
Transportation, Communications, and Utilities	1,500	1,500
Community Services	12,700	15,800
Total	37,900	43,500

Source: Metropolitan Planning Commission

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3. A new high-rise office building (Third National Bank Building) at the corner of Fifth Avenue and Church Street;

4. A new state government office building near the intersection of Fifth Avenue and Deaderick Street;

5. A new building for the headquarters of the Southern Baptist Convention near the intersection of Ninth Avenue and Commerce Street;

6. A convention center in the block enclosed by Broadway, Commerce, Fifth Avenue, and Seventh Avenue; and

7. Restoration of the lower Broadway Historic District stretching from First to Fifth Avenues--approximately $500,000 of federal funds will be spent for the facelift of this area.

On an overall basis, Nashville's downtown has a strong economic base which is going to continue. The demand for both curbside and off-street parking and loading is going to grow in the future.

Vehicular and Pedestrian Traffic

Automobile traffic flow in Nashville's downtown, as in most other cities, is the heaviest during the morning and afternoon commuting hours of employees. During these peak periods, traffic problems are most acute along Fourth Avenue, Church Street between Fourth and Fifth Avenues, Eighth Avenue, and in the vicinity of the bridges crossing Cumberland River. Traffic problems in these areas and other locales have become worse in recent months due to the encroachment of construction activities at different locations within the downtown area.

Trucks provide an essential service to downtown establishments by delivering and picking up goods. Over-the-road large combination trucks are rarely used for this purpose. However, even the smaller single-unit trucks are large as compared to automobiles, and their need for curb space for loading/unloading is substantial in terms of both time and space. The areas which experience congestion due to trucks include lower Broadway, First and Second

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Avenues, Church Street, Eighth Avenue, Capitol Boulevard, and the roads in the vicinity of Printers Alley and the Arcade. In addition to trucks, service vehicles (of plumbers, electricians, etc.), courier vehicles, and parcel vehicles create problems at various locations, especially where traffic congestion already exists for other reasons.

MTA buses are major users of curb space, and they hinder traffic flow by their frequent stops for the boarding and alighting of passengers. MTA bus stops are located throughout the downtown area. However, bus routes are relatively more concentrated on Deaderick Street, Broadway, Third Avenue, Fourth Avenue, Fifth Avenue, and Sixth Avenue. Most of the bus stops in the CBD are on the nearside of street intersections.

Taxis and tour buses do not create severe traffic problems, although they do cause inconvenience to other road users by parking in prohibited locations and by double parking. At the present time there are designated taxi stands at three different locations within the study area: James Robertson Parkway, Union Street between Capitol Boulevard and Sixth Avenue, and Second Avenue between Church Street and Commerce Street. (The taxi stand located south of the Greyhound Bus Station is outside the study area.) A designated zone for tour buses in front of the Ryman Auditorium is frequently used. Tour buses are also seen parked in the vicinity of Fort Nashborough, the Capitol, Legislative Plaza, and the Hyatt Regency Hotel.

Pedestrian traffic fluctuates during the day. The usual peak periods of pedestrian movement are the morning and afternoon commuting hours and the noon hour. A combination of business, shopping, and luncheon travel creates considerable pedestrian movement during the noon hour. The locations of heavy pedestrian movements include Fourth Avenue North near Church Street where

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several financial institutions are located, Church Street between Fourth and Seventh Avenues where several department stores are located, the Arcade stretching between Fourth and Fifth Avenues, and Union Street and Deaderick Streets between Third and Sixth Avenues where several major office complexes are located.

Use of Curb Space for Different Purposes

The primary or major users of curb space in the downtown area are private automobiles, freight vehicles including trucks and courier/parcel vehicles, service vehicles, and MTA buses. Taxis and tour buses may be considered secondary, or minor, users of curb space. The designated spaces for the automobiles and trucks are of particular interest for this study because these spaces are controversial and also amenable to changes. The need of curb space for buses and taxis is fairly steady and straightforward.

The existing supply of designated curb space for automobiles and trucks can be described best by means of maps, and a series of maps have been prepared for this purpose. Automobile parking has the most variety of parking policies and these are presented in the following sketches:

1. Figure 1: Locations without any parking restrictions;
2. Figure 2: Locations of metered parking of different types;
3. Figure 3: Locations with "No Parking" during peak hours; and
4. Figure 4: Locations with "No Parking Any Time."

The figures show that there are considerable parking restrictions in the core of downtown. Metered parking is available along edges of the core area.

The loading zones for trucks are shown in Figure 5. Several blocks near the intersection of Fifth Avenue and Commerce Street do not have any loading

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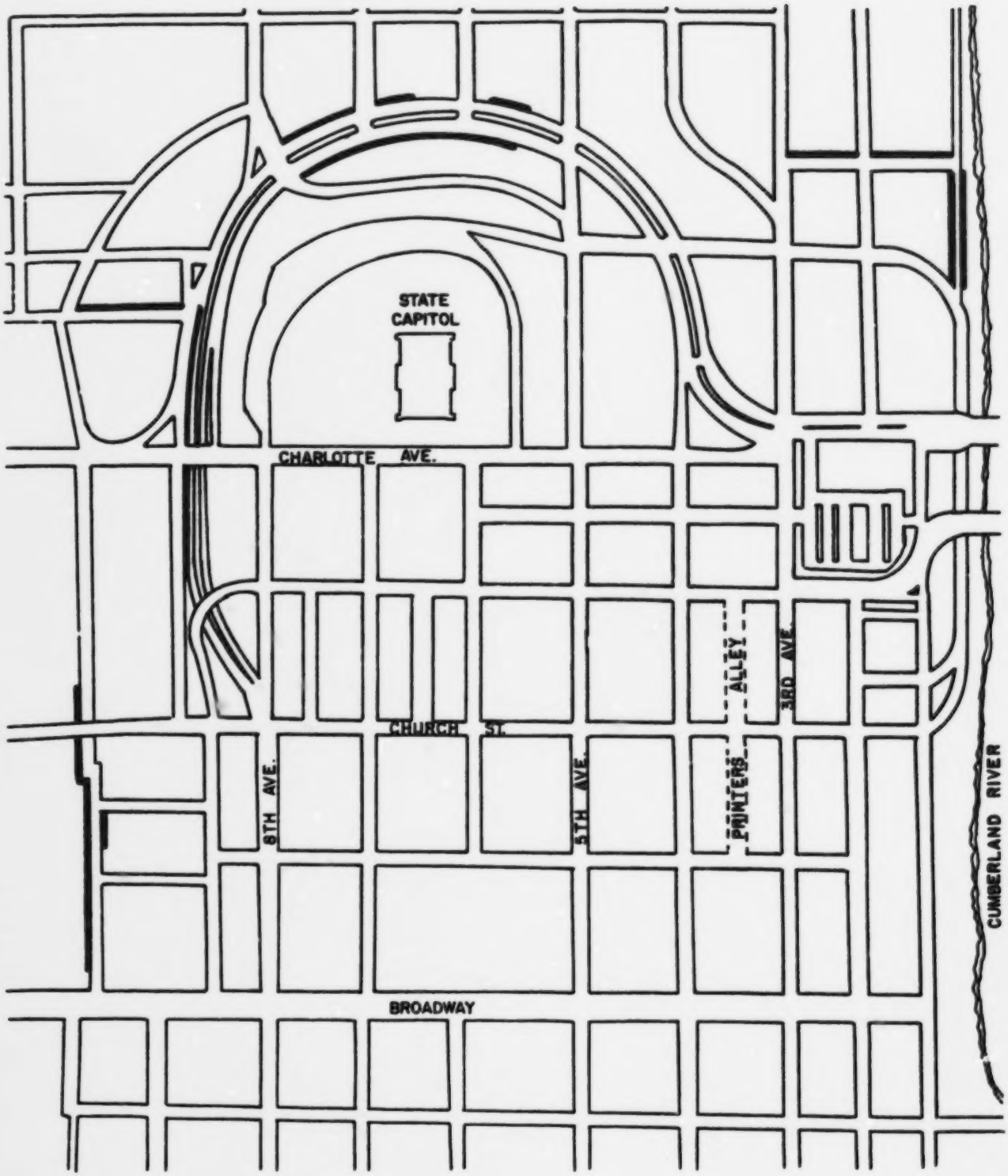

FIGURE 1. LOCATIONS WITHOUT ANY PARKING RESTRICTIONS

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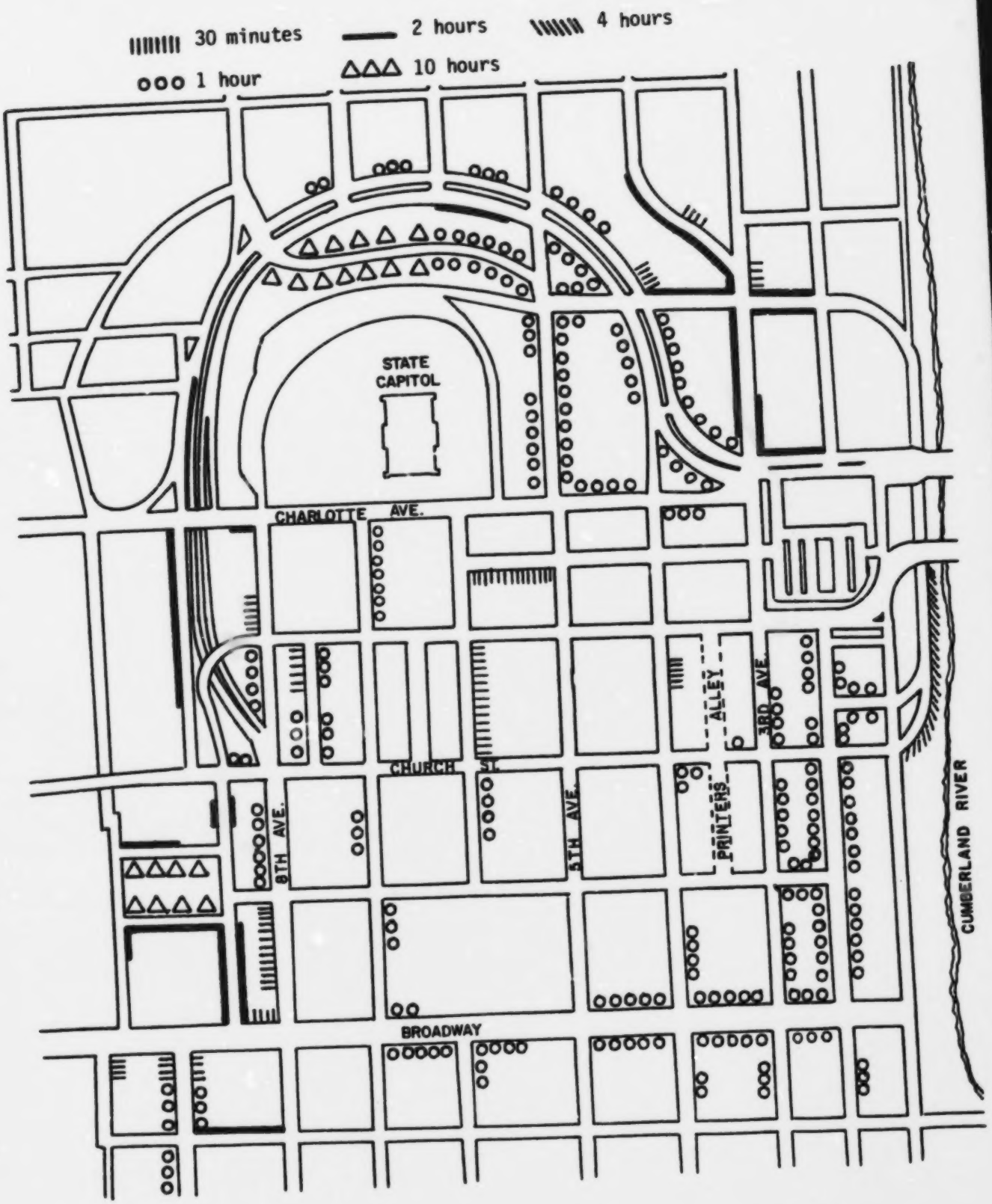

FIGURE 2. LOCATIONS OF METERED PARKING OF DIFFERENT TYPES

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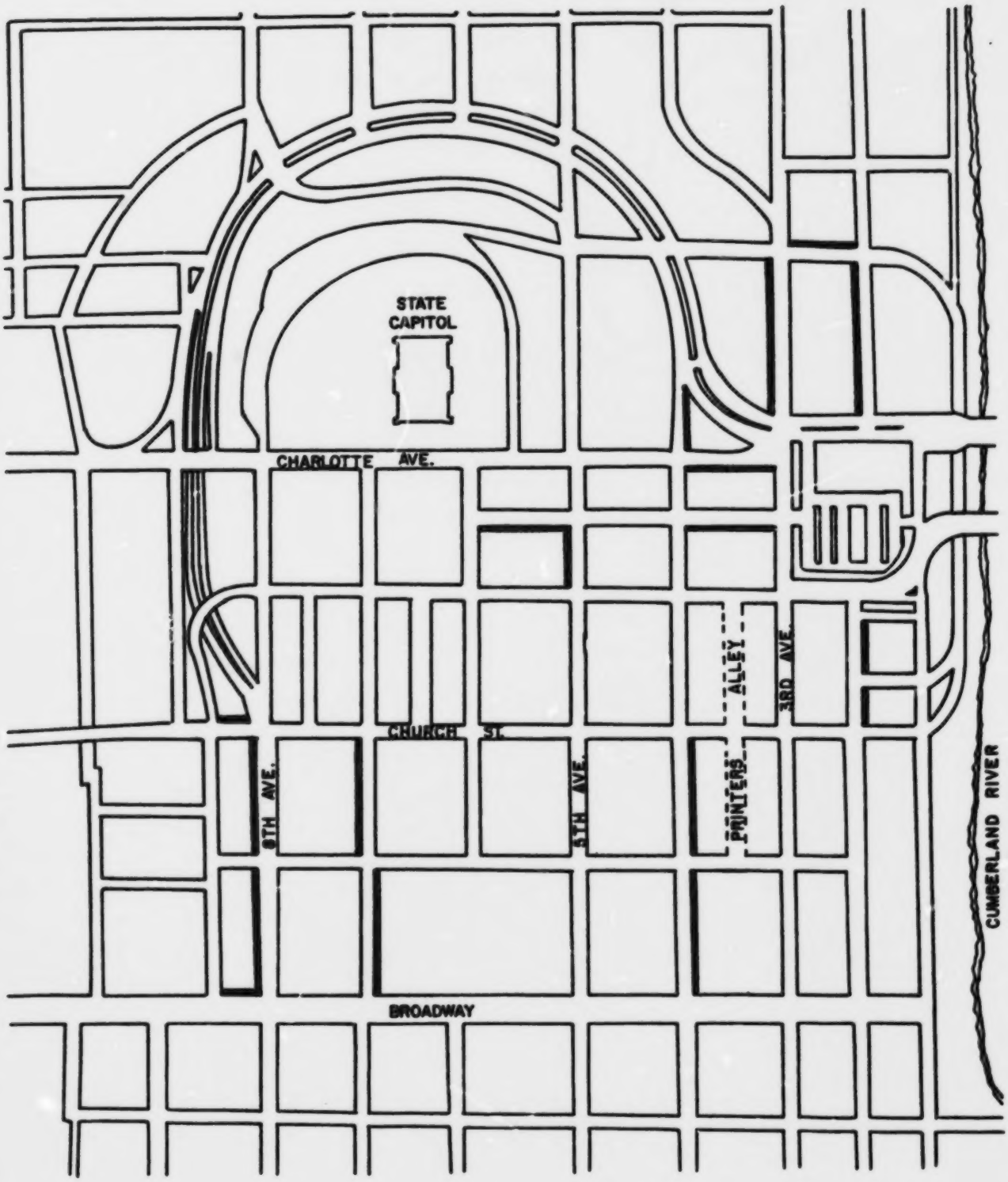

FIGURE 3. LOCATIONS WITH "NO PARKING" DURING PEAK HOURS

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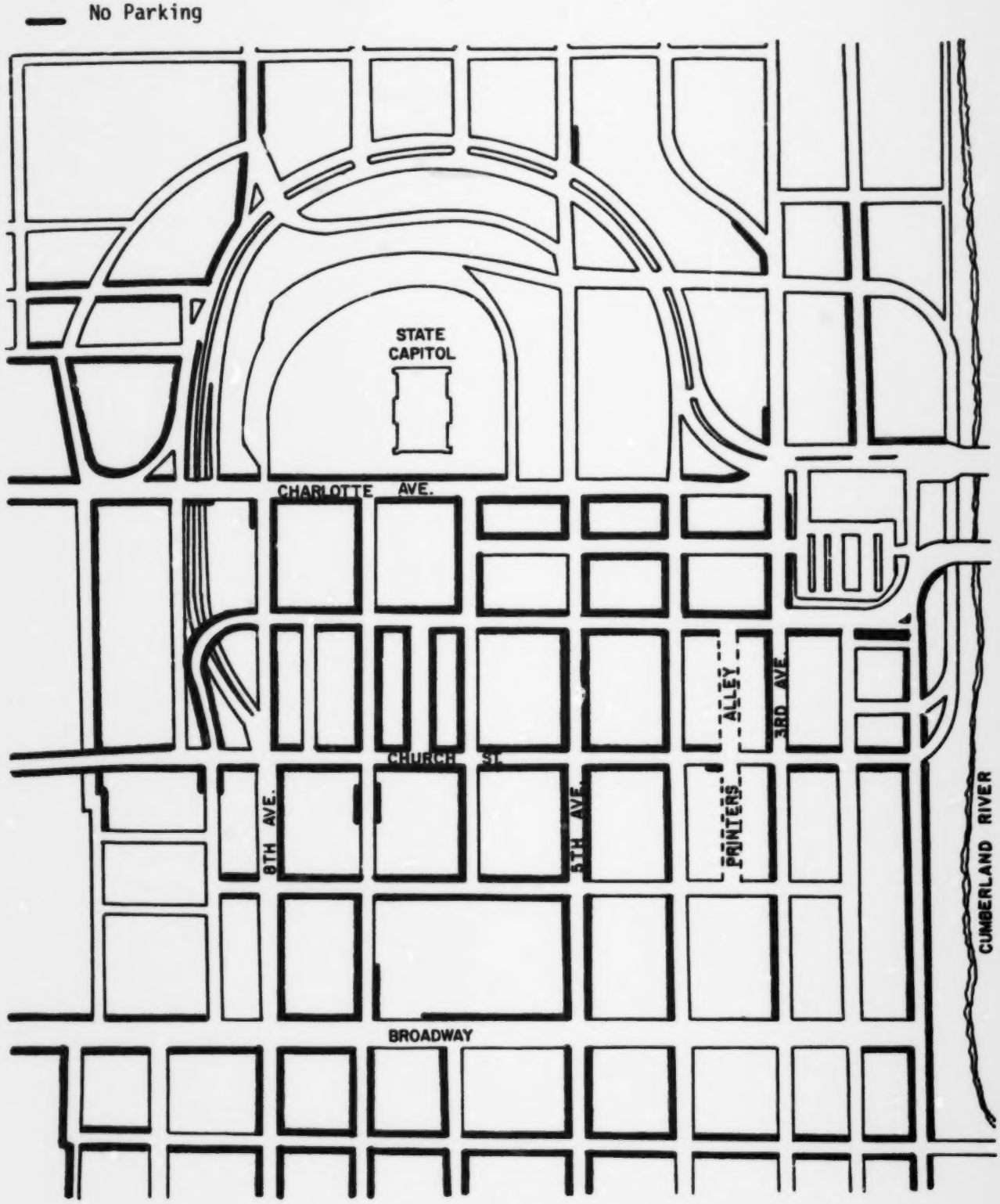

FIGURE 4. LOCATIONS WITH "NO PARKING ANY TIME"

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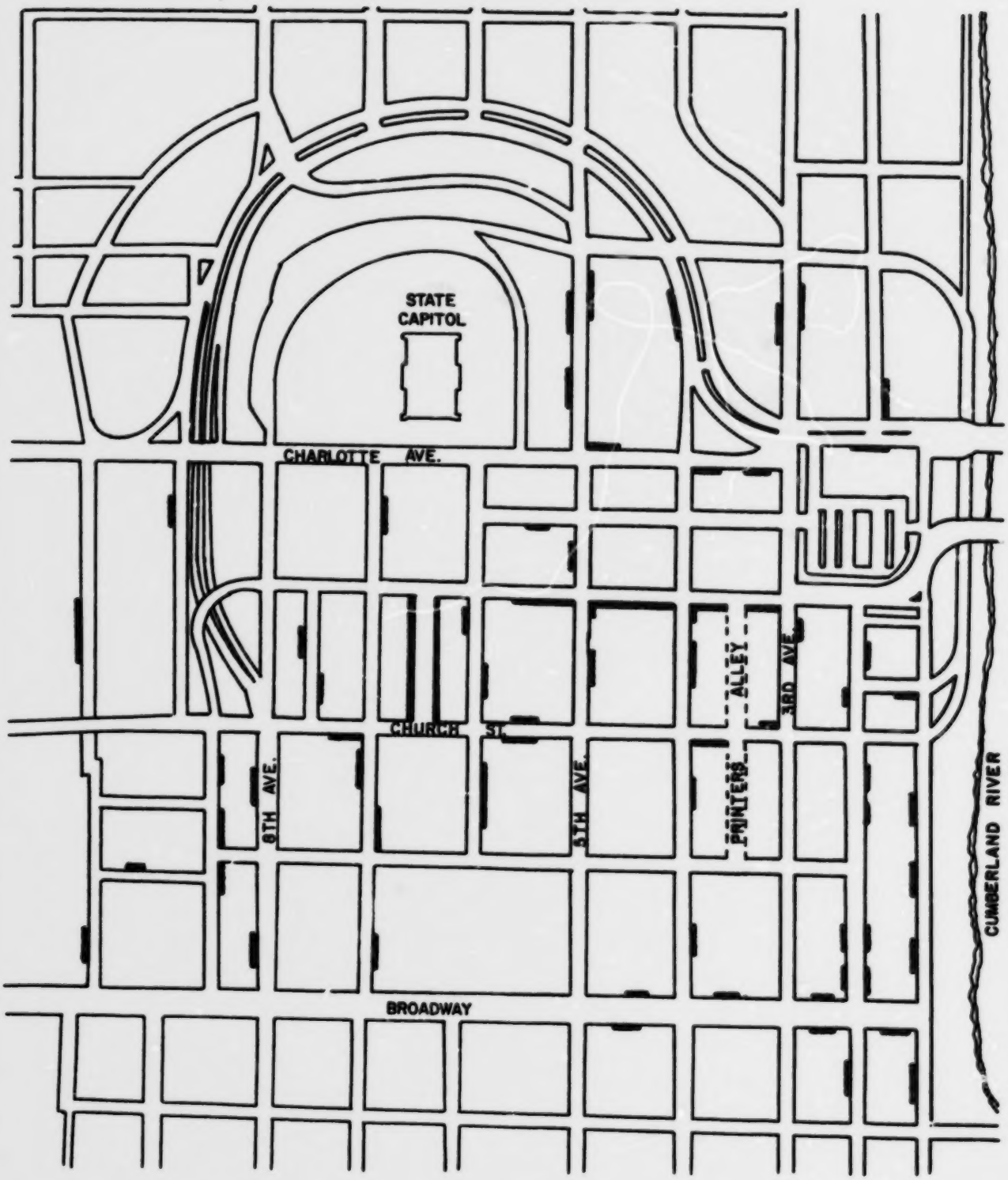

FIGURE 5. LOCATIONS OF LOADING ZONES

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zones. Otherwise, loading zones are fairly well distributed with some concentrations on Capitol Boulevard and Union Street between Third and Sixth Avenues.

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III. ASSESSMENT OF EXISTING PROBLEMS AND OPPORTUNITIES

In addition to the inventory of the existing supply of curb space for different uses, and the identification of concentrations of pedestrians and vehicular traffic of different types, a few special analyses were performed to assess existing problems and to explore opportunities for improvements. These special efforts included a curb space use survey and a workshop of a steering committee which was formed for this study. These two efforts are reported in this section.

Curb Space Use Survey

To determine how the parking spaces and loading zones in the study area were being utilized, a survey was designed and performed on Monday, August 13, 1984. Four different locations were selected in consultation with the staff of the Traffic and Parking Commission. Two of these locations covered two block lengths each, and the other two covered one block length each. Descriptions of these locations are presented in Table 2. A total of 105 parking spaces and 23 loading spaces were monitored during this survey.

A survey form was designed to record the occupancy characteristics of every parking space and loading space at each location at intervals of 30 minutes beginning at 8:00 am and continuing until 4:00 pm. Locations 1 and 2 were covered on foot by one person in 30 minute cycles, while locations 3 and 4 were covered by another person on foot, also every 30 minutes. A sample of the survey form is presented in Figure 6. During each tour of 30 minutes, if a space was found to be occupied, the surveyor recorded the characteristics of the vehicle including its license plate number. The observed data were used to compute space-hours of supply and space-hours of occupancy by different

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TABLE 2

DESCRIPTIONS OF SURVEY LOCATIONS

Location Description	Length	Number of Parking Spaces	Number of Loading Spaces
1. East side of Fourth Avenue between Church and Commerce	One Block Face	9	9
2. South side of Deaderick between Fifth and Sixth Avenues	One Block Face	10	4
3. East side of Second Avenue between Church and Broadway	Two Block Faces	39	5
4. West side of Second Avenue, between Church and Broadway	Two Block Faces	47	5

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Date: _____ Location: _____

Observer: _____

Parking or Loading Space No.	Tour Beginning at							
	8:00 am	8:30 am	9:00 am	9:30 am				
Parking Meter 1	7B950	✓	2E357					
Parking Meter 2								
Loading Zone 1	Automobile (Illegal)	✓	Pickup Truck Tag #	✓				

FIGURE 6. A SAMPLE FORM FOR PARKING AND LOADING ZONE USAGE SURVEY

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types of vehicles--legal and illegal. These measures then were used to derive different evaluative statistics. The major findings with respect to the use of parking spaces and loading zones are presented in the following sections.

Analysis of Parking Space Usage. The evaluative statistics developed with the observed data for the parking spaces at the four locations are presented in Table 3. The results show that the occupancy of spaces in locations 1 and 2 was substantially higher than occupancy in locations 3 and 4. Illegal occupancy was relatively higher in locations 3 and 4, where nearly 50 percent of the occupancy was found to be illegal. Expiration of parking meters and violations of parking restrictions were the criteria for classifying parked vehicles as illegal. The average duration of occupancy was approximately one hour in all of the four locations.

Analysis of Loading Zone Usage. The survey and analysis of loading zone usage was a little more complicated than those for parking spaces. Unlike the parking spaces--metered or unmetered--each individual loading space was not clearly marked. Some loading zones were only 20 to 22 feet long, whereas some others were 80 feet long. For the purpose of the survey, a length of 20 to 22 feet, which is the standard size for automobile parking spaces, was used to define a single unit of loading space. Although this length of space is too short for large freight carrying vehicles, it was appropriate for most of the vehicles found to be using the loading spaces during the survey. Other pertinent schemes and assumption for classifying vehicles and determining the legality of occupancy are presented below:

1. Vehicles in loading zones were classified as automobiles, pickups, delivery vans, and single unit trucks. Bread and beverage trucks were treated as single unit trucks.

2. Vehicles without commercial licenses and parked in loading zones were considered illegal.

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TABLE 3

SUMMARY OF PARKING SPACE USAGE ANALYSIS

Location	Total Percentage Occupancy (Legal & Illegal)	Legal Percentage Occupancy	Illegal Percentage Occupancy	Average Duration of all Occupancy (Hours)	Average Duration of Legal Occupancy (Hours)	Average Duration of Illegal Occupancy (Hours)
1. East side of Fourth Avenue between Church and Commerce	91.85	74.07	17.7	0.978	0.980	0.667
2. South side of Deaderick between Fifth and Sixth Avenues	97.3	67.3	30	0.848	0.953	0.681
3. East side of Second Avenue between Broadway and Church	69.91	34.7	35.2	1.189	1.16	1.211
4. West side of Second Avenue between Broadway and Church	53.19	27.23	25.95	1.053	1.090	1.016

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The evaluative statistics developed with the observed data for loading zones at the four locations are presented in Table 4. The utilization of loading spaces measured in terms of "percent occupancy" was found to be less than that of automobile parking spaces. A significant finding of the survey is that illegal occupancy of loading spaces was very high. At three of the four survey locations, more than 50 percent of occupancy was found to be illegal. The average duration of legal occupancy was found to vary among the four locations ranging from 0.5 hour to 1.1 hours. Other interesting findings include the following:

1. Illegal users of loading zones were mostly automobiles.
2. Legal users of loading zones were primarily pickup trucks. Some vans and single unit trucks were observed, but no combination trucks were found.

Workshop of Steering Committee

In order to obtain inputs from persons directly involved with curb space use and related policies, a steering committee was formed. The committee included representatives from several public agencies and private groups and companies. A meeting of the committee was held on July 9, 1984, to discuss various issues and strategies involving curb space use. The members who were able to attend the meeting are listed in Table 5.

In addition to participating in a free-flowing discussion, the members completed a set of structured questionniares, which were designed to obtain their views and comments on specific problems and strategies. There were different questionnaires for each of the following uses of curb space:

- Automobile parking;
- MTA bus stop;

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TABLE 4

SUMMARY OF LOADING ZONE USAGE ANALYSIS

Location	Total Percentage Occupancy (Legal & Illegal)	Legal Percentage Occupancy	Illegal Percentage Occupancy	Average Duration of all Occupancy (Hours)	Average Duration of Legal Occupancy (Hours)	Average Duration of Illegal Occupancy (Hours)
1. East side of Fourth Avenue between Church and Commerce	67.5	21.48	36.3	0.672	0.805	0.6125
2. South side of Deaderick between Fifth and Sixth Avenues	65	8.33	56.66	0.847	0.625	0.894
3. East side of Second Avenue between Broadway and Church	58.6	42.6	16	1.10	1.143	1.0
4. West side of Second Avenue between Broadway and Church	33.3	16	17.33	0.59	0.5	0.72

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TABLE 5

MEMBERS OF STEERING COMMITTEE WHO ATTENDED THE WORKSHOP

Name	Organization
George Harper	Traffic and Parking Commission
Gene Ward	Traffic and Parking Commission
Dennis Johnson	Office of the Mayor
Jo Ann Federspiel	Metropolitan Transit Authority
Ben Purnell	Metropolitan Transit Authority
Jerry Fawcett	Metropolitan Planning Commission
Eddie Jones	Chamber of Commerce
Roy Trotter	United Parcel Service
John Haley	United Parcel Service
Richard Leichleiter	Checker Cab

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- Truck loading;
- Taxi stands; and
- Tour vehicle stops.

Each set of questionniares had two parts--one focusing on problems and their locations and the other on related policies and actions. Samples of the questionnaires along with the responses are included in the Appendix. The responses of the committee members were compiled. These were found useful for identifying problems as well as strategies for their solution. A few selected members of the committee were contacted later on for further discussions on specific issues. Although there were minor differences of opinion among the members on certain issues and policies, there was a general agreement in most cases. The major findings of these discussions have been incorporated into the short-range and long-range strategies presented in the following two chapters.

Review of Preliminary Findings by Steering Committee

Copies of the preliminary report containing the findings and recommendations of the study were sent to all agencies which participated in the workshop and to a few additional agencies and groups including the Police Department and Metro Council. A meeting of the Steering Committee was held on February 7, 1985, to review and discuss the findings and recommendations. The discussion addressed several issues and concerns related to implementation and enforcement of curb space management strategies. The preliminary recommendations were refined in the light of the points brought out during this meeting. A list of individuals attending the meeting is presented in Table 6.

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TABLE 6

MEMBERS OF STEERING COMMITTEE WHO
ATTENDED THE REVIEW MEETING

Name	Organization
George Harper	Traffic and Parking Commission
Gene Ward	Traffic and Parking Commission
Bill Huggins	MDHA/Urban Development
R. L. Titsworth	Police Department
King E. Herndon	Police Department
Bob Paslay	Metro Planning Commission
Jerry Fawcett	Metro Planning Commission
Ben Purnell	Metro Transit Authority
Alex Roman	Metro Transit Authority
Richard Leichleiter	Checker Cab
Eddie Jones	Chamber of Commerce
Ludye N. Wallace	Metro Council
Jerry Joines	United Parcel Service

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IV. SHORT-RANGE STRATEGIES

Strategies that would be effective toward the elimination of existing problems with regard to the use of curb space in the near future are presented in this section. The pros and cons of each strategy are also discussed from the standpoint of the present status of Nashville's CBD. The strategies have been grouped according to the users of curb space. The issue of enforcing regulations is a common element for all users, and it is discussed at the end of this chapter. Comments on enforcement related requirements applicable to specific users are offered in sections pertaining to respective users. The long-range strategies are presented in the following chapter.

Automobile Parking

The two most common short-range strategies used for curbside automobile parking are the following:

1. Prohibition of parking along selected road segments and at selected times; and
2. Use of parking meters with appropriate time limits and fees.

Both of these strategies are being used effectively in Nashville. However, these strategies require continuous monitoring and revisions, if necessary. As Nashville's CBD continues to grow, traffic on the roads will increase, and this will require prohibition of parking along additional road segments, especially during rush hours. No immediate changes in the existing scheme of parking and standing prohibitions are necessary.

Some changes with regard to the parking meters will have to be considered in the future. As a general policy, short-term parking should be encouraged to increase the turnover, that is the number of users. At the

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present time there are approximately 246 metered spaces with a time limit of 2 hours or more. Of these, 118 spaces have 2-hour meters. In comparison, 622 metered spaces have a time limit of 1 hour or less. It is likely that the time limits of meters at certain locations will have to be reduced in the future. For example, the 2-hour spaces located in the vicinity of retail stores would be prime candidates for conversion to 1-hour spaces. Some of the 1-hour meters along Second Avenue and Third Avenue may be converted to 30-minute meters.

Another category of strategy that should be pursued in the short run involves parking fees and it is directed toward reducing the demand for on-street parking. The fees for on-street parking meters should be increased to a level which would encourage parkers to seek off-street parking in Metro garages and commercial lots. Simultaneously, the downtown merchants and businesses such as the retail stores, banks, and similar institutions should be approached to subsidize their customers' cost of off-street parking or bus fare, whichever is applicable. This strategy would require the cooperation of the merchants and businesses, the operators of parking lots and garages, and the MTA. A scheme for validating the parking and bus tickets at the stores or business offices and the subsequent collection of the subsidy has to be developed. Although several parties would be involved with this strategy, it would not be difficult to implement. Actually, it has been used successfully in several other cities. A committee comprised of representatives from the Traffic and Parking Commission, MTA, the Metropolitan Planning Commission, the Chamber of Commerce, and organizations of downtown merchants and businessess should be established for this purpose.

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Truck Loading/Unloading

An Analysis of the provisions of the Traffic and Parking Code revealed that a freight loading zone is meant to be used for the loading and unloading of "freight or merchandise too heavy or bulky to be conveniently carried by hand." The Code also specifies that "in no case shall a stop for loading and unloading exceed thirty minutes." Thus, according to the Code, a freight loading zone is not meant for use by courier/parcel vehicles (including postal vehicles) delivering or picking up light and small shipments. It also is not meant for use by service vehicles for transferring tools and machines meant for repair and servicing, even if those are heavy. Observations of the use of loading zones, however, showed that the loading zones actually are used legally and illegally by vehicles of all types.

Recognizing the increasing number of courier/parcel vehicles serving the downtown area, it seems that the Code should be revised to accommodate the need for these vehicles. There are two options for this purpose--either to broaden the definition of a freight loading zone to include light shipments of courier/parcel vehicles (including postal vehicles) or to create separate loading zones for these smaller vehicles.

Under the first option, the following amendment to the Code may be adopted:

1. Certified courier/parcel vehicles are permitted to use a freight loading zone even though their packages are small and light. The occupancy of a freight loading zone by a courier/parcel vehicle must not exceed 10 minutes.

Under the second option, separate loading zones of 22 ft. in length and marked as courier/parcel vehicle zones are to be provided at selected locations, and the following amendments to the Code may be adopted:

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1. A freight loading zone is not to be used by a courier/parcel vehicle unless it is longer than 20 ft. in size. (Many trucks of United Parcel Service are 25 to 30 feet in length, and these must be certified to use the longer loading zones.)

2. A courier/parcel vehicle zone is meant for the use of certified courier/parcel vehicles of less than 20 ft. in length for the purpose of delivering or picking up light shipments.

3. A courier/parcel vehicle zone may not be occupied by a vehicle for more than 10 minutes.

Treatment of Service Vehicles. Service vehicles used by plumbers, telephone repair persons, office machine service persons, and similar service personnel are often left in freight loading zones for long periods of time. These vehicles usually are small in size and include automobiles, vans, and pickup trucks. In most cases, these vehicles fit in regular parking spaces for automobiles, either off-street or on-street. Nevertheless, many of these vehicles are parked in curbside loading zones. The usual justification offered is that the service persons have to carry heavy tools and machines. A case can be made for allowing these vehicles to stop briefly at loading zones to drop off or pick up tools and repair machines, but there is no justification for leaving them in loading zones for long periods of time, thereby preventing trucks from gaining curbside access for legitimate purposes. A clear statement of the policy toward service vehicles should be added in the Code, and it may be as follow:

> Service vehicles[1] must not park in freight loading zones (and courier/parcel vehicle zones, if applicable) except briefly and solely for the purpose of unloading or loading heavy repair tools and machines. In no case may these vehicles occupy a loading zone for more than 5 minutes.

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[1]Service vehicles include pickups, panel trucks, and vans weighing less than 19,500 lbs. (GVW), which are used to perform service missions such as mechanical and electrical repairs and installations, plumbing, heating, air conditioning, painting, and furniture and fixture repairs.

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Size of Freight Loading Zones. The following specifications may be adopted for delineating freight loading zones.

1. A loading zone should be at least 40 ft. in length and 9 ft. in width measured from the curb-face. Where demonstrably appropriate, longer loading zones may be provided, and the length of these should be in multiples of 40 ft., e.g., 80 ft., 120 ft., etc.

2. All loading zones shall be clearly marked or delineated in the following manner: The overall limits of the zone shall be marked on the pavement with a bordering yellow line of 4-inch width within which there shall be 45° diagonal "zebra" striping at 18-inch centers (also in yellow and not less than 3" wide). Through the use of curbside signing, placed parallel to the curb, the overall limits of the loading zones shall be shown clearly with the words "LOADING ZONE, from _____ (time) to _____ (time), (days also shown), DO NOT PARK." Arrows on the said signs should point out the appropriate limits. Letterings should have a minimum height of 2-1/2 inches and proportional width.

3. A courier/parcel vehicle zone, if provided, should be 22 ft. long. It should also be marked and delineated in a similar manner as described above except for the diagonal "zebra" stripes, which should have a different pattern.

Locations of Loading Zones. Ideally, loading zones of appropriate size should be located on both sides of each and every city street block containing commercial establishments. A loading zone on one side of the street is not sufficient and it encourages jay walking, cross-street freight transfers, and similar unsafe practices. Exceptions, of course, are valid for cases with narrow streets and inadequate capacity. Loading zones should terminate not less than 80 feet from the nearest street intersection, and the zones should not be placed directly across from each other because such a practice would act to "funnel" or "choke" through traffic. On any given side of a street block, it may be preferable to establish one double length loading zone instead of two single-length zones. In no case should two zones on the same side of the street in the same block be separated by less than 100 feet.

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Finally, curbside obstacles, such as planters, should be avoided and removed, wherever possible.

Hours for Loading Zones. Streets are "joint use" facilities--a scarce commodity that must be shared by all appropriate users at various times. In order to achieve this objective with regard to loading zones, hours of application must be carefully and rationally determined. Thus, if a given area requires commercial truck service Monday through Friday, it is not rational to make loading zones in that area applicable to Saturdays also. Again, in areas with little through commuter traffic, it is not rational to restrict the use of loading zones to non-rush-hour periods only. Thus, it is proposed that:

1. All loading zones should be available for general parking on Sunday.

2. Unless the nature of nearby commercial establishments clearly dictates otherwise, all loading zones should be available for general parking on Saturdays, or at the very least on Saturdays after 12 noon.

3. The hours of applicability of loading zones during weekdays, should be from 7:00 am to 6:00 pm.

4. Exception to the provision immediately above would apply to heavily used (as shown by traffic counts) commuter routes where the applicable loading zone hours would be from 9:00 am to 4:00 pm, Monday through Friday.

5. On receiving applications or petitions and following hearings and review, individual time variations may be granted for loading zone hours when it can be conclusively shown that the commerical establishments to be served at a given loading zone location would experience direct financial loss due to the time restrictions. However, such variations should be granted most sparingly and only in extraordinary circumstances, and should be subject to further monitoring of use and annual review.

Management and Enforcement of Loading Zones. At the present time freight loading zones are designated in response to applications received from business establishments and after investigations by the staff of the Traffic and Parking Commission. Further, a fee is collected on an annual basis from the

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petitioning establishments to recover costs associated with the erection and maintenance of signs, etc. The loading zones, however, are for the use of the general public, and the Code clearly states that:

> . . . the establishment of a loading zone as the result of such special request and upon the payment of such fees by the applicant shall in no manner entitle such applicant to any rights in such loading zone superior to the use of the general public.

In practice, however, there is a tendency on the part of business establishments paying fees for freight loading zones to use these zones in a proprietary fashion. This practice of establishing "sponsored" loading zones contributes to the misuse of the curb space. The loading zones are found to be occupied by private automobiles, and the maximum time limit for occupancy is frequently exceeded.

It is proposed that the current practice of designating loading zones and collecting fees from business establishments be discontinued. The locations of these zones should be selected by the Traffic and Parking Commission based on the characteristics of adjacent land use and the nature of the roadway segments and traffic flow.

The potential revenue loss resulting from the discontinuation of the present loading zone fees paid by certain business establishments may be offset by generating revenue through adopting one or more of the following approaches:

1. Place meters in loading zones to be used during weekdays between 7:00 am to 6:00 pm. This would encourage delivery and pickup of goods during early morning and late afternoon hours and would help control the use of space during other hours when the demand for space is higher. The meters for loading zones should have special features with regard to shape and/or color so that automobile drivers will not treat them as parking meters. A special coloring of the curb and "zebra" stripping of the road space will be helpful for this purpose also.

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2. Adopt a permit/decal system for both trucks and courier/parcel vehicles and require that decals be purchased and displayed on the vehicles. The decals should specify the type of space or zone each vehicle is permitted to use.

It should be pointed out that the second option mentioned above will impose another layer of administration upon the city, which may be burdensome.

MTA Bus Stops

One of the essential uses of curb space is for bus stops. Approximately 34 MTA bus routes serve the downtown area of Nashville. Approximately 38 designated bus stops occur inside the area known as RUSH Zone, which is bounded by Broadway, First Avenue, Charlotte, and Eighth Avenue. Although the bus routes and their stops are fairly dispersed throughout the downtown area, a few roads have greater concentrations of routes and stops than others. Examples of such roads are Deaderick, Broadway, Third Avenue, Fourth Avenue, Fifth Avenue, and Sixth Avenue. Automobile parking along these roads, especially in the vicinity of bus stops, should be discouraged unless the routings of buses are changed.

One aspect of bus stops which has significant impact on traffic flow is their location with respect to street intersections. Many bus stops in Nashville's downtown are on the nearside, i.e., approach side, of an intersection. This type of a location usually creates difficulties for the traffic turning right at an intersection. The nearside location also poses difficulties for a bus wanting to merge back into the through traffic lanes on its left. A bus stop located on the farside, i.e., departing side, would create less impedance to traffic flow. It is recommended that a joint effort be made by the staff of the Traffic and Parking Commission and MTA to examine each bus stop and to choose an appropriate location. Preference should be given to farside locations in general, although it is possible that in some cases a nearside stop

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may be preferred based on such factors as turning movements, one-way street pattern, and pedestrian safety.

Taxi Stands

Designated taxi stands should be provided near major hotels, office complexes, and transportation terminals. The existing taxi stands inside the study area are in appropriate locations. The stand on Union Street between Capitol Boulevard and Sixth Avenue is in the proximity of many activity centers including two hotels, the Legislative Plaza, a state office building, a performing arts center, and a museum. If additional space for taxis is needed in the future in this general location, Capitol Boulevard should be considered because it does not carry much through traffic.

The existing taxi stand on Second Avenue between Broadway and Commerce Street serves the southeast sector of the downtown area and is in the proximity of the South Central Bell office, restaurants, and new office buildings being developed in that area. This stand should be continued.

The taxi stand on James Robertson Parkway is at an appropriate location. This location is suitable for serving the northern sector of the downtown area and is close to the Municipal Auditorium.

The Greyhound Bus Station on Eighth Avenue lies just outside the study area, while the Trailways Bus Station is well outside the study area. Nevertheless, the need for taxi stands at these locations should be noted. Actually, there are several spaces for taxis near the Greyhound station. Taxis and passengers prefer locations in close proximity to the passenger entrance/exit at terminals. An investigation should be made to find the most convenient locations for taxi stands at these terminals consistent with the parallel goal of not interfering with the traffic flow along major roads.

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Parking for Tour Buses

The several tourist attractions in Nashville's downtown attract both large and small tour buses. These locations include the Ryman Auditorium on Fifth Avenue, Fort Nashborough on First Avenue, and the new Riverfront Park. The locations in the center of downtown include the Legislative Plaza, the Tennessee Performing Arts Center, and the State Capitol.

There is a need to provide short-term parking places near the tourist attractions where the tour buses can load and unload passengers. However, buses should not be allowed to remain parked while passengers are somewhere else. Buses should be allowed to stop briefly to unload passengers and then required to park in a less congested area and return to pick up the passengers. At the present time there is a designated zone for tourist vehicles on Fifth Avenue in front of Ryman Auditorium. This should be a short-term parking for 15 minutes only. Another location should be identified in the vicinity of the Legislative Plaza; Union and Deaderick Streets should be examined for this purpose.

Two types of off-street parking places should be found for tour vehicles. First, the tour vehicles should have a designated off-street space for parking for one to two hours during the day to spend the time between the unloading and loading of the passengers at a tourist attraction. A suitable location for this purpose should be sought. Second, there should be other locations for these buses to park for periods longer than two hours including overnight stays. The Metropolitan parking facility in East Nashville across the river is an appropriate facility to meet this long-term parking need. The existing shuttle service from this facility would be convenient. There should

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be reasonable charges/fees for both short-term and long-term parking arrangements. A scheme should be developed for notifying all local and outside tour companies.

Enforcement

The need for rigorous enforcement of all regulations pertaining to the use of curb space cannot be overemphasized. Enforcement should receive a very high priority among curb space management strategies. As mentioned earlier, Nashville's CBD has reached a critical stage of its growth. Although traffic related problems exist now, they are not intolerable as yet. However, it will not be too long before serious problems will begin to arise. Many of these problems can be avoided through the enforcement of existing and revised policies. Now is the appropriate time to establish a respect among all users of curb space toward the regulations. Unfortunately, the necessary respect toward the regulations cannot be established without firm enforcement.

As reported earlier, The Curb Space Use Survey revealed that frequent violations of parking and loading regulations occur now. The causes of this problem may be complex, and there are several questions that should be addressed in order to find a satisfactory solution. The important questions along with some recommendations are presented below:

1.a. Question/Concern: Is the intensity of enforcement adequate? (That is, is the probability of getting a ticket when violating a regulation high?)

b. Comment/Recommendation: The intensity of enforcement should be increased and it would require the deployment of additional manpower.

2.a. Question/Concern: Is the magnitude of the imposed fine perceived to be a severe penalty to discourage repetition of the violation? (That is, do the frequent violators find that the payment of infrequent ticket fines is less expensive than the payment of parking fees on a regular basis?)

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b. Comment/Recommendation: The amount of fines should be increased, and a scheme should be developed to make fines progressively higher for chronic violators.

3.a. Question/Concern: Are the ticket fines being paid subsequently? (That is, is there a rigorous program to collect all fines?)

b. Comment/Recommendation: Serious difficulties exist with regard to the collection of parking fees, especially from chronic violators. There must be a concerted effort on the part of the police and judicial officers to be able to enforce the penalties on chronic violators.

It is recommended that a program of towing and booting of the vehicles of frequent violators be developed and implemented.

The above listed questions and comments should be investigated thoroughly to develop a sound enforcement strategy. Following the development of such a plan, which may include more severe penalties, an intensive implementation program along with some publicity should be undertaken throughout the study area. The high level of intensity of enforcement should be maintained for several months before changing to a slightly more selective strategy. The selective enforcement program must be developed carefully to have a built-in unpredictability of pattern. This latter selective program would be more intense than the present program, and it should include intermittent periods of even more intense enforcement.

The additional funds spent on the enforcement program should give rise to several benefits by contributing toward the following goals:

1. Provide more equitable or fair access to adjacent development based on assessed need and priority. (It would stop the practice of a few users denying many others the legitimate use of curb space.)

2. Improve traffic flow. (It would eliminate double parking and reduce the circulation of vehicles searching for curb space.)

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3. Enhance safety of pedestrians and reduce crime. (The outdoor presence of law enforcement offiers would promote more alert driving and would discourage undesirable activities in the downtown area.)

Demonstration/Test Program

It is recommended that prior to the adoption of new policies a few sites be chosen to implement a planned program to test the effectiveness of the strategies presented in this section. The program should seek the cooperation of the merchants and employers of the selected blocks. The systematic procedure for monitoring and evaluating the program should be developed and implemented.

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V. LONG-RANGE STRATEGIES

Nashville is a dynamic city and has a strong CBD. The characteristics of the CBD and its trend of growth were discussed in a previous chapter. Based on the observable trend, certain long-range strategies are recommended to alleviate potential future problems related to the use of curb space by automobiles, trucks, and taxis.

Automobile Parking

The supply of curb space in the CBD for automobile parking will have to be reduced in the future to cope with the increasing demand for roadway capacity in the downtown area. Future decisions related to this matter should be guided by the following considerations:

1. Short-term parking should be given more priority than longer term parking. This approach would contribute toward the goal of serving the maximum number of users with a limited resource.

2. If all-day parking is to be provided in the future in certain locations, some of these spaces should be reserved for authorized high occupancy vehicles. The number of such reserved spaces should be decided in consultation with the agency responsible for promoting ridesharing in the downtown area.

Policies involving off-street parking have considerable influence on the demand for curbside parking. Therefore, long-range policies involving off-street parking were not overlooked in this study focusing on curb space management. A few such policies deserving attention are discussed below.

It is recommended that a careful study be made of the zoning requirements related to accessory off-street parking in the Core Commercial District and the Core Commercial Frame District. At the present time accessory off-street parking is required for the Core Commercial Frame District, but the Core Commercial District is exempted from this requirement. The amount of space required in the Core Commercial Frame District should be reevaluated for

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adequacy. Further, consideration should be given toward requiring the future developers in the Core Commercial District to provide and dedicate some off-street parking to be used for authorized high occupancy vehicles such as vanpool vehicles.

Another concept which has been applied in a few cities is to charge an "in-lieu fee" from developers as an alternative to meeting all or a part of the requirements for off-street parking. Such fees would be pooled and used to develop public parking garages at suitable locations. The "in-lieu" approach is extended also to the provision of parking for high occupancy vehicles whereby the required off-street parking spaces are reduced by certain proportions if some spaces are permanently dedicated for the use of authorized high occupancy vehicles. It is recommended that a study be performed to examine the feasibility of collecting some form of in-lieu fee from the existing and new developments in the Core Commercial District.

Another strategy deserving attention is the provision of peripheral parking lots or garages as interceptors of downtown-bound traffic. This strategy would have to be coordinated with the public transit service in the downtown area and especially with a downtown circulation system, if developed. These parking lots or garages should be located along the corridors of downtown-bound traffic and in the outer fringes of the CBD. Access to these lots or garages should be convenient so that automobile drivers are attracted to leave their cars at these locations and change to a public transit vehicle for their final destination. This concept of intercepting parking lots and garages needs to be pursued over a long period of time. Some advance actions would be necessary to be able to acquire and reserve suitable sites for this purpose.

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Space for Trucks, Courier/Parcel Vehicles, and Service Vehicles

Whereas there are several feasible strategies for reducing the demand for automobile parking such as the increased use of carpools and vanpools as well as the public transit service, alternatives for reducing the demand for loading/unloading space for the use of trucks, courier/parcel vehicles, and service vehicles are scarce. The concept of a freight consolidation terminal has been examined as a means of "pooling" freight shipments of different trucking firms. This scheme should result in a reduction in the number of trucks used for delivering and picking up freight in an urban area. However, the accompanying institutional problems have made this approach impractical at least in the foreseeable future. Thus, it is only practical to assume that the future demand for loading space will increase as Nashville's CBD continues to grow. At the same time it is also clear that the availability of curb space for loading/unloading purposes is not going to be adequate to meet the increased demand. Therefore, more emphasis must be placed on the supply of off-street loading space for trucks, courier/parcel vehicles, and service vehicles.

Nashville's zoning ordinance requires accessory off-street loading berths in both the Core Commercial District and the Core Commercial Frame District, which constitute the study area. The requirements are applicable to new constructions and buildings or structures which are enlarged or modified to increase the floor area. In the latter case of enlargements and modifications of buildings or structures, the requirements apply only to the increased floor area. A study of these requirements as outlined in the Metropolitan Code reveals certain strengths as well as weaknesses, which are discussed below:

1. The requirements as to the number of berths are adequate.
2. The size of required berths as specified in the Metropolitan Code (55 ft. by 12 ft.) is oriented to large combination trucks. Recognizing the fact that most delivery/pickup trucks

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in the CBD are single unit trucks, the specification for size of berths may be modified to provide a mixture of sizes.

3. There is no explicit requirements for off-street loading space for courier/parcel vehicles and service vehicles. Appropriate provisions for these vehicles should be added in the requirements.

One of the major difficulties faced by the drivers of trucks and courier/parcel vehicles in connection with the delivery and pickup of goods is caused by buildings with multiple tenants and the lack of joint and centralized receiving stations in these buildings. A substantial amount of time can be saved by the drivers of freight carrying vehicles if such facilities are provided. These time savings would increase the turnover rate of off-street and on-street loading spaces and thus would reduce the requirement for such space. It is recommended that a requirement for centralized receiving stations be added to the building code and/or any other appropriate code or ordinance. Such a requirement should be applicable to remodeled as well as new buildings or structures.

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VI. MAJOR FINDINGS AND RECOMMENDATIONS

The analysis of existing policies and strategies with respect to curb space use in Nashville's CBD and observations of the actual curb space usage patterns of different users led to several conclusions and recommendations. The major findings and recommendations are presented in this section.

Short-Range Observations and Recommendations

1. Policies governing the allocation of space for curbside automobile parking and its use are fairly adequate at the present time. A little more emphasis on short-term parking meters, however, would be desirable. Also desirable would be an increase in parking meter fees so that off-street parking would become more economical and attractive.

2. Policies governing the allocation and use of space for trucks, courier/ parcel vehicles, and service vehicles need careful reexamination. A detailed analysis of existing problems involving loading zones and several alternative strategies for both the near term and the future were presented in previous chapters. The major recommendations involving loading zones include the following:

   a. It is proposed that the current practice of designating loading zones in response to petitions from business establishments and collecting fees from the petitioning businesses be discontinued. The locations of these zones should be selected by the Traffic and Parking Commission based on the characteristics of adjacent land use and the nature of the road segment and traffic flow. (Business establishments, of course, can communicate their needs to the Traffic and Parking Commission at any time.)

   b. Recognizing the increasing number of courier/parcel vehicles serving the downtown area, it is proposed that the Traffic and Parking Code be revised to accommodate the needs of these vehicles.

   c. The Traffic and Parking Code should include a clear policy toward service vehicles. These vehicles should not occupy loading zones except briefly and solely for the purpose of unloading or loading heavy repair tools and machines.

3. Many bus stops in Nashville's downtown are on the nearside of intersections. It is recommended that a joint effort be made by the staff of the Traffic and Parking Commission and MTA to relocate all bus stops to the farside of intersections except where there are special reasons favoring a nearside stop.

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4. The existing taxi stands in Nashville's downtown are located appropriately and should be continued. The need for additional taxi stands within the study area and at the Greyhound and Trailways bus stations, which are located outside the study area, should be investigated in cooperation with representatives of taxi companies.

5. The on-street parking of tour vehicles should be limited to 15 minutes for the purpose of loading and unloading passengers. Additional locations for such brief parking should be identified in the vicinity of the Legislative Plaza and the Tennessee Performing Arts Center. Off-street parking facilities for longer periods should be established for these vehicles. One potential location for this purpose is the metropolitan parking facility in east Nashville across the river.

6. One of the significant findings of a curb space use survey is the inadequate level of enforcement of parking and loading zone restrictions. Violations of loading zone restrictions particularly were frequent. It is strongly recommended that parking and loading zone restrictions be enforced more rigorously. Towing and booting of the vehicles of frequent violators should be used.

7. It is recommended that a planned demonstration program of the proposed strategies be carried out at a few selected locations in cooperation with the local merchants and employers. A careful evaluation of the effectiveness of the program should also be carried out.

Long-Range Observations and Recommendations

1. For the long-term future the strategies for curb space use must be coordinated with those for off-street parking and loading.

2. It is likely that on-street parking in downtown in the future may be limited to short-term parking only. If, however, 8-hour or 10-hour parking is provided in certain locations, some of those spaces should be reserved for authorized high occupancy vehicles.

3. The zoning requirements for providing off-street parking spaces in the downtown area should be reevaluated. Wherever possible an adequate amount of off-street spaces should be required, and some priorty should be given to high occupancy vehicles. If certain establishments are exempted from this requirement, an "in-lieu fee" should be collected and used for developing and/or operating public parking garages.

4. An adequate number of parking lots or garages should be developed at peripheral locations to intercept downtown-bound automobile traffic and to encourage the transfer of automobile

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users to public transit. The location of these parking facilities and the level of public transit service must be determined carefully.

5. Zoning requirements for off-street loading berths should be applicable not only to new constructions, but also to structures which are enlarged or modified to increase the floor area.

6. The zoning ordinances should include an appropriate requirement for off-street loading space for courier/parcel vehicles and service vehicles.

7. The building code and/or any other appropriate code or ordinance should include a requirement for providing joint and centralized freight receiving stations in buildings with multiple tenants. Such a requirement should be applicable to new as well as remodeled structures.

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APPENDIX

WORKSHOP QUESTIONNAIRES AND RESPONSES

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AUTOMOBILE PARKING

1. What type of problems and issues relating to curbside (or on-street) automobile parking are faced by general public/shoppers, and employees/members of your organization? Which specific locations in downtown Nashville do these problems occur? (Please use a √ mark on the left of appropriate items.)

√	PROBLEMS AND ISSUES	PROBLEM LOCATIONS AND TIMES
	a) Unavailability of curbside parking where needed.	
1)	Deadrick St. - Illegal curbside parking and double parking near the Performing Arts Centre causes delays to buses and movement of traffic.	
2)	4th Ave. - Between Union and Commerce - double parking.	
3)	Public Library - 11 A.M. - 2 P.M.	
4)	Probably more than what should be allowed in C.B.D.	
	b) Interference (problems) created by curbside parking which affect:	
	(i) Pedestrians	
1)	Arcade - 4th and 5th Ave.	
2)	Pedestrians jay walking from between parked cars. Interfering with traffic. Accident risk throughout downtown.	
3)	Loading Zone on east side of 4th Ave. north at intersection with Church St. - Trucks encroach on cross walk on south side of Church St.	
	(ii) Trucks	
1)	Causes Trucks to double park when they are unable to get to loading zone	
2)	Charolotte Ave. South to Lafayette - Not enough loading zones. Personal vehicles allowed to park in loading zones while unloading trucks are ticketed for double parking.	
3)	No truck parking 7-9 a.m., 3:30-5:30 p.m. Throughout downtown.	
	(iii) MTA Buses	
1)	Deadrick St. - 4th and 5th Ave.	
2)	Buses in right lane at intersections allowing right turns cause traffic back up. Eliminate right turns or move bus stop.	
3)	Deadrick - particularly at night (TPAC on street parking)	
4)	On street parking at any transit stage.	

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1. (continued)

(iv) Taxis

1) 8th Ave. South - at Greyhound Bus Station. Park in moving traffic lanes.

2) Our industry probably would prefer stands in front of Hyatt, Hermitage and Radisson. But we have agreed with commission and hotels that space is not available. So cruising of these hotels is seen.

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c) Parking is too close to intersection.

1) Broadway - Most intersections of arterials with cross streets.

---

d) Parking duration (time limit) is too long.

1) Not long enough

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e) Illegal parking in "No Parking" Zone.

1) Zones largely ignored.

2) All over - penalties seem inadequate.

3) Causes many problems - safety to pedestrians and ttraffic flow.

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1. (continued)

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f) Illegal parking in freight "Loading Zone".

1) Causes trucks to double park. Vehicles close another traffic lane.

2) Zones largely ignored.

3) 4th Ave. to 8th Ave. - Church Street turn-outs along Mall section.

4) Personal vehicle take up Loading Zone.

---

g) Double parking (i.e., parking two abreast).

1) Zones ignored

2) Causes problem with traffic flow.

(Please list problems/issues not covered by above items)

h) 1) Cab drivers get lots of tickets for blocking traffic while loading and unloading. Generally the judges have dismissed the ticket if the driver takes time to go to court. Some polic are cooperative and some or not - our drivers tell us.

---

i)

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2. What type of actions/policies should be taken/adopted to solve the previously mentioned problems and issues? (Please use a √ mark on the left of appropriate items.)

√	SUGGESTED POLICIES/ ACTIONS	PRIORITY: HIGH, MEDIUM, OR LOW	LOCATION	COMMENTS
	a) Revise parking meter charges to encourage short-term parking in the downtown area -- especially in its core areas	TWO LOW ONE MEDIUM (THREE RESPONSES ONLY)		
	b) Prohibit curbside parking where off-street parking lots and garages are available	TWO HIGH ONE MEDIUM (THREE RESPONSES ONLY)	(1) CHURCH ST. 4th AVE. NORTH	
	c) Prohibit curbside parking at all times on selected roads with heavy traffic	TWO HIGH ONE LOW (THREE RESPONSES ONLY)	1) C.B.D. 2) FREIGHT VEHICLES NEED PARKING ON ALL STREETS	
	d) Prohibit curbside parking during rush-hours on selected roads	TWO HIGH (TWO RESPONSES ONLY)	1) C.B.D 2) 1st - 6th DEADRICK TO COMMERCE.	

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2. continued

e)	Limit all day parking only in the fringe areas of downtown	TWO HIGH ONE MEDIUM (THREE RESPONSES ONLY)	
f)	All day curbside parking be limited only to authorized high occupancy vehicles (vanpools, etc.)	ONE LOW (ONE RESPONSE ONLY)	1) A VEHICLE IS A VEHICLE REGARDLESS OF OCCUPANCY.
g)	Encourage business firms to subsidize off-street parking lot fees for their customers	ONE HIGH ONE MEDIUM (TWO RESPONSES ONLY)	(1) BANKS, RETAIL BUSINESS (2) ECONOMIC STUDY NEEDED

(Please list actions/policies not covered by previous items)

h) 1) All trucking companies need laoding zone on all downtown streets.

2) Standarize signs, eliminate multiple signs. Design a simple sign that means what it says and enforce it.

3) Parking rates (lots and garages) high in C.B.D. Tend to discourage - C.B.D. work trip traffic.

i)

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TRUCK LOADING

1. What type of problems and issues relating to truck parking are faced by pick-up and delivery truck drivers, and employees/members of your organization? Which specific locations in downtown Nashville do these problems occur? (Please use a √ mark on the left of appropriate items.)

√	PROBLEMS AND ISSUES	PROBLEM LOCATIONS AND TIMES
	a) Unavailability of curbside "Loading" Zones <u>where</u> needed	
1)	Church St.	
2)	4th, 5th, and 6th Ave. - Between Deadrick and Commerce	
3)	Stahlman Building - Morning and afternoon	
4)	3rd Ave. - Existing loading spaces fully occupied and double loaded.	
5)	1-12th - Broadway and Charlotte	
	b) Unavailability of curbside "loading" zones <u>when</u> needed	
1)	1-12th Ave. - Broaway- Charlotte	
2)	9 a.m. - 5 p.m.	
	c) Freight "loading" zones too close to intersections	
1)	4th Ave. - In front of J. C. Bradford - 11 a.m. to 2 p.m.	
2)	4th Ave. - South of Church	

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1. (continued)

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d) Illegal automobile parking in truck loading zones

1) All of C.B.D.

2) 4th - 6th Ave.

3) Serious problems to delivery vehicles, banks, libary, and retail stores

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e) Trucks parked in loading zones violate the 30 minute limit

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f) Interference due to curbside loading affects:

(i) Pedestrians

1) 4th Ave. - in front of J. C. Bradford Bldg.

2) 5th Ave. - North

(ii) MTA Buses

1) 7th Ave. North

2) 4th, 5th, and 6th Ave. - Between Deadrick and Commerce are the major problem areas for MTA buses. Major problems occur where trucks park in bus stops or double park or not enough loading zone space is available.

(iii) Private buses

(iv) Taxis

1) Taxis use loading zone for delivery of small parcels rather than the closest taxi stand

---

(Please list problems/issues not covered by previous items)

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1. (continued)

g)

h)

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2. What type of actions/policies should be taken/adopted to solve the previously mentioned problems and issues? (Please use a √ mark on the left of appropriate items.)

√	SUGGESTED POLICIES/ ACTIONS	PRIORITY: HIGH, MEDIUM, OR LOW	LOCATION	COMMENTS
	a) Loading zones to be used only by registered commerical vehicles for loading/unloading of goods only	FIVE HIGH (FIVE RESPONSES ONLY)		1) IS IT OK FOR TAXIS TO UNLOAD PERSONS AT "LOADING ZONES".
	b) Bar service trucks vehicles from loading zones except when they are physically transferring goods	ONE HIGH (ONE RESPONSE ONLY)		
	c) Encourage use of alleys for loading/unloading purposes (where available)	FOUR HIGH ONE LOW (FIVE RESPONSES ONLY)		
	d) Confine loading zones only to one side of road	ONE HIGH ONE LOW (TWO RESPONSES ONLY)		

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2. (continued)

e) Prohibit truck parking on curbside during rush hours (7 to 9 and 4 to 6) on selected roads carrying heavy commuter traffic	TWO HIGH ONE LOW (THREE RESPONSES ONLY)

f) Prohibit truck parking on curbside during

_____ to _____ (hrs)
(Fill-in) (Fill-in)

(i) Along heavily used bus lanes

1) 7 A.M. to 9 A.M.

2) 3:30 to 5:30

(ii) Along blocks with heavy pedestrian concentration

g) Discontinue leasing loading zones to private enterprise, and instead provide metered loading zones	ONE LOW (ONE RESPONSE ONLY)

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2. (continued)

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h) Revise zoning ordinance with respect to requirements for off-street loading docks

HIGH
(ONE RESPONSE ONLY)

---

i) Revise building codes to require off-street and centralized shipping/receiving stations/docks for multiple tenant buildings -- new and rehabilitated

TWO MEDIUM
ONE HIGH
(THREE RESPONSES ONLY)

(Please list actions/policies not covered by previous items)

j) 1) Many curbside pickups and deliveries are at building having alleys, loading docks or other off-street facilities.

---

k)

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MTA BUS STOPS

1. What type of problems and issues relating to curbside bus stops are faced by employees/general public/shoppers and members of your organization? Which specific locations in downtown Nashville do these problems occur? (Please use a √ mark on the left of appropriate boxes items.)

√	PROBLEMS AND ISSUES	PROLBEM LOCATIONS AND TIMES
	a) Bus stops too close to intersections, and interfere with turning vehciles.	
1)	5th Ave. - North of Church and Deadrick	
	b) Bus stops interfere with pedestrians	
1)	4th Ave. - at Arcade	
2)	4th, 5th, and 6th Ave. - side walks too narrow to accommodate queuing bus patrons and pedestrians (between Church Street and Union Street).	
	c) Metered parking spaces too close to (or interfering with) MTA bus stops	
1)	2nd Ave. - Near Commerce	
	d) Freight "Loading Zones" interfere with bus stops	
1)	4th and 5th Ave. - Near Arcade.	

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1. (contineud)

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e) Bus stop length not long enough for holding waiting buses

1) 4th and 5th Ave. - at Deadrick.

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f) Buses frequently double park, i.e., do not pull into a bay completely.

1) Assorted locations in CBD.

2) 5th Ave. - at Deadrick.

(Please lit problems/issues not covered by above list)

g) 1) Only two taxi stands are used in CBD.

2) I am a bus rider to and from work and I think they do a good job. I have no problems with MTA vs. our industry (Taxi)

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h) Would anyone like to comment on Rod Williams ammendments? Derugulation is an important issue facing some of us soon.

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2. What type of actions/policies should be taken/adopted to solve the previously mentioned problems and issues? (Please use a √ mark on the left of appropriate items.)

√	SUGGESTED POLICIES/ ACTIONS	PRIORITY: HIGH, MEDIUM, OR LOW	LOCATION	COMMENTS
	a) An uniform/consistent policy should be adopted for locating MTA bus stops -- on near side, or on far side of intersections, or in mid-block.	LOW (ONE RESPONSE ONLY)		1) PASSENGER CONVENIENCE SHOULD DICTATE ANY OF THE OTHER THREE AS PUBLIC NEED TRAFFIC FLOW.
	b) Remove parking on roads used by MTA buses as follows:			
	(i) All roads (used by MTA buses)			
	(ii) Selected blocks			1) THIS WOULD HELP IN DOWNTOWN WHERE IT RESTRICTS MOVEMENT.

(Please list actions/policies not covered by previous items)

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2. (continued)

c) 1) Determine near-side and far-side stop, by individual intersection analysis. Consolidate bus stops and transfers into a central location. (transit Mall).

2) Establish means to provide adequate passenger waiting area where heavily used bus stops are provided.

d)

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TAXI STANDS

1. What type of problems and issues relating to curbside taxi parking are faced by general public/shoppers, and employers/members of your organization? Which specific locations in downtown Nashville do these problems occur? (Please use a √ mark on the left of appropriate boxes items.)

√	PROBLEMS AND ISSUES	PROBLEM LOCATION AND TIMES
	a) Unavailiability of curbside space for taxis where needed	
1)	Need cooperation from police to stand by for a moment to load and unload without being ticketed.	
	b) Interference created by curbside taxi parking affects:	
	(i) Pedestrians	
	(ii) Trucks	
	(iii) MTA buses	
1)	Radisson, Fourth, and Deadrick	
2)	4th Ave. - Between Union and Deadrick when Taxis are unable to go into the Hotel entrance	

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1. (continued)

(iv) Private auto

c) Taxis parking in prohibited zones

1) 8th Ave. - Greyhound Bus Station

d) Taxis left unattended near taxi stands

1) There are only two taxi stands in C.B.D. that are ever used. On Union Street by side of Hermitage and also by side of Greyhound Bus. Lots of tickets are issued in front of Greyhound Bus.

(Please list problems/issues not covered by previous items)

e)

f)

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2. What type of actions/policies should be taken/adopted to solve the previously mentioned problems and issues? (Please use a √ mark on the left of appropriate items.)

√	SUGGESTED POLICIES/ ACTIONS	PRIORITY: HIGH, MEDIUM, OR LOW	LOCATION	COMMENTS
	a) Provide taxi stands in the following areas:	HIGH (ONE RESPONSE ONLY)	OFF STREET	
	(i) Bus terminals			
	(ii) Hospitals	ONE HIGH ONE MEDIUM (TWO RESPONSES ONLY)	NEAR ENTRANCE	
	(iii) Theaters	LOW (ONE RESPONSE ONLY)		
	(iv) Train stations			
	(v) Hotels	TWO HIGH (TWO RESPONSES ONLY)		1) RADISSON, HERMITAGE AND AND HYATT 2) SPACE NOT AVAILABLE IN FRONT AS NEEDED.

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2. (continued)

(vi) Major public service buildings (e.g., social-security office, etc.)	MEDIUM (ONE RESPONSE ONLY)	OFF-STREET

b) Through local zoning ordinances require off-street taxi stands for the following tyes of development -- new and rehabilitated

1) TAXIS NOT ALLOWED TO STAND BUT TOUR BUSES BLOCK THE LANE FOR A WHOLE WEEKEND.
2) FAVOUR NEGOTIATED RULES INSTEAD OF ORDINANCES.

(i) Bus terminals	HIGH (ONE RESPONSE ONLY)
(ii) Hospitals	HIGH (ONE RESPONSE ONLY)
(iii) Theaters	
(iv) Train stations	HIGH (ONE RESPONSE ONLY)

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2. (continued)

(v) Hotels	HIGH (ONE RESPONSE ONLY)	DOWNTOWN HOTELS
(vi) Major public service buildings		

(Please list actions/policies not covered by previous items.)

c) LET TAXIS PICK-UP PEOPLE WHEREVER THEY NEED A TAXI.

d)

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TOUR VEHICLES

1. What type of problems and issues relating to curbside parking of tour vehicles are faced by general public, employees/members of your organization? Which specific locations in downtown Nashville do these problems occur? (Please use a √ mark on the left of appropriate items.)

√	PROBLEMS AND ISSUES	PROBLEM LOCATIONS AND TIMES
	a) Tourist buses/vehicles parking in MTA bus stops	
1)	Tour buses in C.B.D. seldom if ever stop. Cause traffic congestion by driving slowly with blinker lights on as driver calls out points of interest.	
	b) Tourist buses parking in "no parking" zone	
1)	4th Ave. - at Raddison	
2)	6th Ave. - on Deadrick st. and Union near performing Arts Centre	
3)	The taxi industry really complains about "tour buses" being allowed to park for a whole weekend "on the street" whereas taxis get tickets in the same space.	
4)	Union Street - off Hyatt	
5)	Church Street - Between 3rd and 4th.	
	c) Tourist bus stop length not long enough for holding waiting buses	
	d) Tourist buses frequently double park, i.e., do not pull into a bay completely	
1)	5th Ave. - At Broadway	9 A.M. to 5 P.M.
	e) Tourist buses/vehicles left unattended near bus stops	
1)	On Church Street - Between Printers Alley, Between 3rd and 4th Ave.	

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1. (continued)

(Please list problems/issues not covered by previous list)

f) 1) Tours operated by local bus companies usually could unload, go to a less congested area and then return to pick-up

g)

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2. What type of actions/policies should be taken/adopted to solve the previously mentioned problems and issues? (Please use a √ mark on the left of appropriate items.)

√	SUGGESTED POLICIES/ ACTIONS	PRIORITY: HIGH MEDIUM, OR LOW	LOCATION	COMMENTS
	a) Provide tour bus/vehicle stops at the following locations: (Please fill in)		1) OFF-STREET AS NEEDED	
	(i)			
	(ii)			
	(iii)			
	(iv)			
	(v)			

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2. (continued)

(Please list actions/policies not covered by previous items)

b)

c)

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